

CLAIMS

What is claimed is:

1. A sealing element comprising:
a desirably shaped body of a sealant material, the sealant material formulated from a first polymer in a concentration of about 25 percent to about 40 percent, an inert filler material in a concentration of about 20 percent to about 45 percent and a hydrocarbon resin in a concentration of about 1 percent to about 15 percent,
wherein the sealant material, when positioned about a first component is overmolded with a material forming a second component, the sealant material, being heat activated, forms a seal between the first and second components.
2. The sealing element in accordance with claim 1 including a second polymer in a concentration of about 20 to about 35 percent.
3. The sealing element in accordance with claim 1 wherein the first polymer is an ethylene vinyl acetate copolymer.
4. The sealing element in accordance with claim 3 wherein the ethylene vinyl acetate copolymer is present in a concentration of about 25 percent to about 30 percent.
5. The sealing element in accordance with claim 1 wherein the inert filler material is a mineral filler.
6. The sealing element in accordance with claim 5 wherein the mineral filler is calcium carbonate in a concentration of about 25 percent to about 30 percent.
7. The sealing element in accordance with claim 1 wherein the hydrocarbon resin is present in a concentration of about 10 percent to about 15 percent.

8. The sealing element in accordance with claim 2 wherein the first polymer is an ethylene vinyl acetate copolymer present in a concentration of about 25 percent to about 30 percent and the second polymer is an ethylene polymer present in a concentration of about 25 percent to about 30 percent.

9. The sealing element in accordance with claim 8 including an epoxy resin present in a concentration of about 2 percent to about 5 percent and including an activator present in a concentration of about less than one percent.

10. A method of sealing a juncture of a first component and a second component in which the first component penetrates the second component to eliminate leak paths, comprising the steps of:

providing a first penetrating component;

disposing around a portion of the first penetrating component a sealant material formulated from a first polymer in a concentration of about 25 percent to about 40 percent, an inert filler material in a concentration of about 20 percent to about 45 percent and a hydrocarbon resin in a concentration of about 1 percent to about 15 percent;

overmolding a second, penetrated component material around the first component and the sealant material; and

activating the sealant material to form seal between the first component and the second component.

11. The method in accordance with claim 10 wherein the overmolding step subjects the sealant material to heat and wherein the activating step is carried out by sealant material being subjected to heat.

12. The method in accordance with claim 10 wherein the sealant is formulated with a first polymer of an ethylene vinyl acetate copolymer present in a concentration of about 25 percent to about 30 percent and a second polymer different from the first polymer in a concentration of about 20 to about 35 percent, and wherein the inert filler material is a mineral filler in a concentration of about 25 percent to about 30 percent.

13. The method in accordance with claim 12 wherein the sealant is further formulated with the hydrocarbon resin present in a concentration of about 10 percent to about 15 percent.

14. The method in accordance with claim 13 wherein the sealant is further formulated with an epoxy resin present in a concentration of about 2 percent to about 5 percent and an activator present in a concentration of about less than one percent.

15. The method in accordance with claim 10 wherein the first component is an electrically conductive component.

16. The method in accordance with claim 10 including a plurality of first components.

17. The method in accordance with claim 10 wherein the second, penetrated component material is polybutylene terephthalate.

18. The method in accordance with claim 10 wherein the second, penetrated component material is nylon.

19. A method of sealing a first component to a second component comprising the steps of:

disposing a premold of sealant material around at least a portion of the first component, such that the premold of sealant material is formed into a desired shape; and

overmolding the second component over the first component and the premold of sealant material such that the second component substantially surrounds the premold of sealant material, wherein heat from the overmolding step activates the premold of sealant material so as to cause the premold of sealant material to form a seal between the first component and the second component, the overmolding step being performed in such a way that although the premold of sealant material is heated up during the overmolding step, the shape of the premold of sealant material is not substantially changed because the second component is formed and configured to substantially surround the premold of sealant material.

20. The method in accordance with claim 19 wherein the first component is an electrically conductive component and the second component is a plastic frame, the first component being adapted and configured to extend beyond an outer surface of the second component after the second component is overmolded around the first component, the first component and the second component forming an electrical connector assembly for use in automotive components and assemblies.